Amendments to the Drawings

The attached replacement sheets of drawings include changes to Figures 4, 5 and 6. These sheets, which include Figures 4, 5 and 6 replaces the original sheets including Figures 4, 5 and 6.

Attachments: 2 Replacement Sheets
2 Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

The claims in the application have been amended to overcome objections raised by the Examiner. The disclosure in the application has been amended to provide proper support for the integral troughs and crest mounting portions of the mold blocks as well as the particular abutting relationship of the crest forming parts on the crest mounting portions. Furthermore, the disclosure has been amended to describe the particular relationship between the vacuum channels shown in the drawings and the integral troughs. No new subject matter has been added as these components are clearly shown in the original drawings and are partially described in the original description of Figures 4, 5 and 6.

The former independent claims in the application were rejected as being obvious over the German reference DE 200 09 030 and this reference in combination with other references, including Hegler (US Patent 6,457,965), Lupke et al (US Patent 6,155,813) and Hegler (US Patent 4,492,551) and others. Reconsideration of these rejections is requested.

The primary German reference teaches a structure in direct contradiction to that presently claimed. As indicated in the present application, the forming of double-walled plastic pipe is certainly known and the manufacture of dedicated fixed mold blocks for forming of double-walled pipe is relatively expensive.

It has been recognized for many years, as disclosed in the German reference, that it is desirable to have mold blocks which are capable of forming double walled pipe of different configurations.

The applicant's prior German utility model illustrates a mold block arrangement where the mold blocks are

specifically designed to receive inserts for defining both the crest forming parts and the troughs of the mold block. Such an arrangement provides full flexibility with respect to the outer configuration of the pipe as the troughs can be replaced to produce pipe of different diameters and the crest forming parts can be replaced to vary the corrugation depth.

Hegler (US Patent 6,457,965) discloses a molding system where single walled pipe is formed in mold blocks having full length replaceable inserts. These replaceable inserts determine both the troughs and crest forming parts of the profiled faces.

US Patent 3,380,121 again discloses a variable molding apparatus. In this case, the molding system is a blow mold apparatus as opposed to a molding system for the manufacture of double-walled corrugated pipe. Such a blow molding process is not suitable for the manufacture of double-walled corrugated pipe. This reference also teaches that the inserts should fully define the shape of the product.

The prior art, when considered in its entirety, has failed to recognize that full flexibility, although initially desirable has its own particular problems. The first particular problem is that the mold blocks require precise machining for receiving all of the inserts which also must be accurately machined. The replaceable troughs and crests of the primary German reference also include a sophisticated dove tail type securement of these inserts in the mold blocks. With these arrangements, replacement of the inserts i.e. both the trough and the crest forming parts, is time consuming. Furthermore, the operating conditions of the equipment will vary considerably particularly if the inserts for the troughs are replaced.

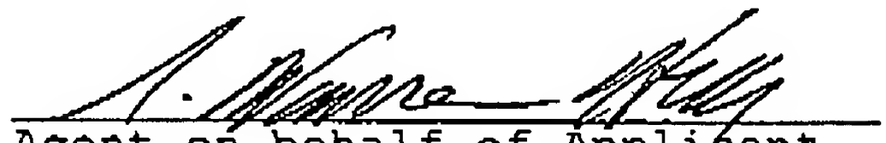
In contrast, the present applicant has realized that full flexibility with respect to adjustable mold blocks is not

required. By replacing only the crest forming parts as taught in the present application, the cost to change over a machine from one size pipe to a different size pipe is reduced while maintaining the particular relationship of the integral troughs. This is important as the plastic is drawn into the troughs by vacuum force. As these components are integral to the mold block, they operate in the same manner. Furthermore, the cost of the mold blocks only requires additional machining for the different sized crest forming parts.

In rejecting the former claims, the Examiner asserts that a person skilled in the art would modify the German reference to make the interchangeable trough forming members of the German reference integral with the mold blocks because it would be well within an artisan of ordinary skill to make a one piece construction instead of a separable construction. If such an artisan was to make a one piece structure, he would make the dedicated mold blocks having integral troughs and crest forming parts. It is clear from the prior art located by the Examiner and used in the industry, that pipe molding systems use either integral mold blocks or use fully variable mold blocks which receive molding surfaces or inserts therein that solely determine the shape of the product being produced. There is no disclosure or even suggestion in the prior art of the particular combination claimed and the advantages that such a system can provide. These advantages are associated with both the couplers that are used for joining pipes produced by this system (same outer dimension) as well as the reduced capital costs associates with the mold blocks as inserts for the full length of the mold blocks are not required. This particular system still allows the operator to adjust the mold blocks in a time efficient manner for producing different strengths of pipe.

In view of the above, reconsideration and allowance of the application is requested.

Respectfully submitted,



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Amdt. Dated June 25, 2007
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Annotated Sheet Showing Changes

Element 45, 59, 61, 63 and 65 added

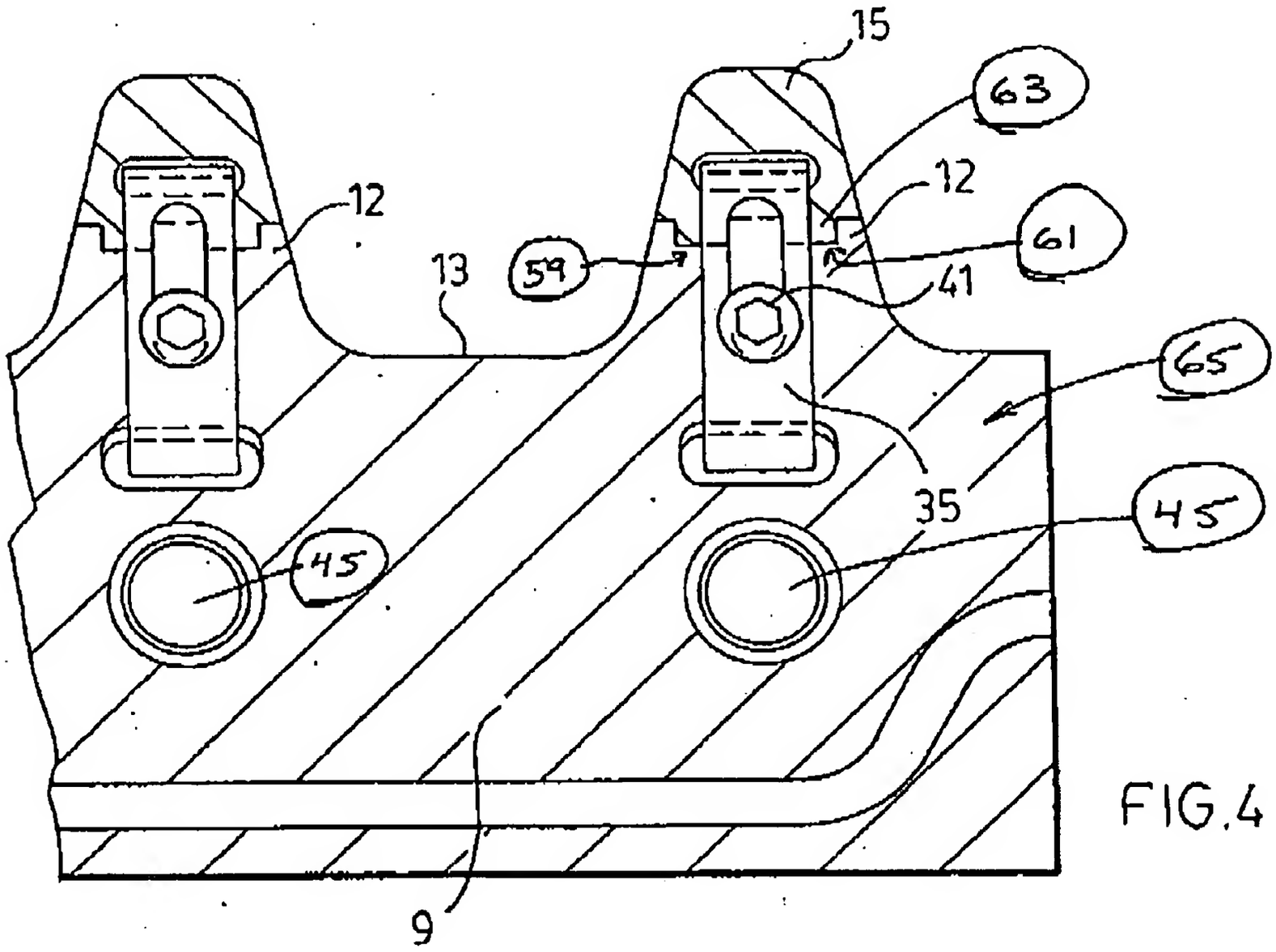


FIG.4

Elements 45, 59, 61, 63 and 65 added.

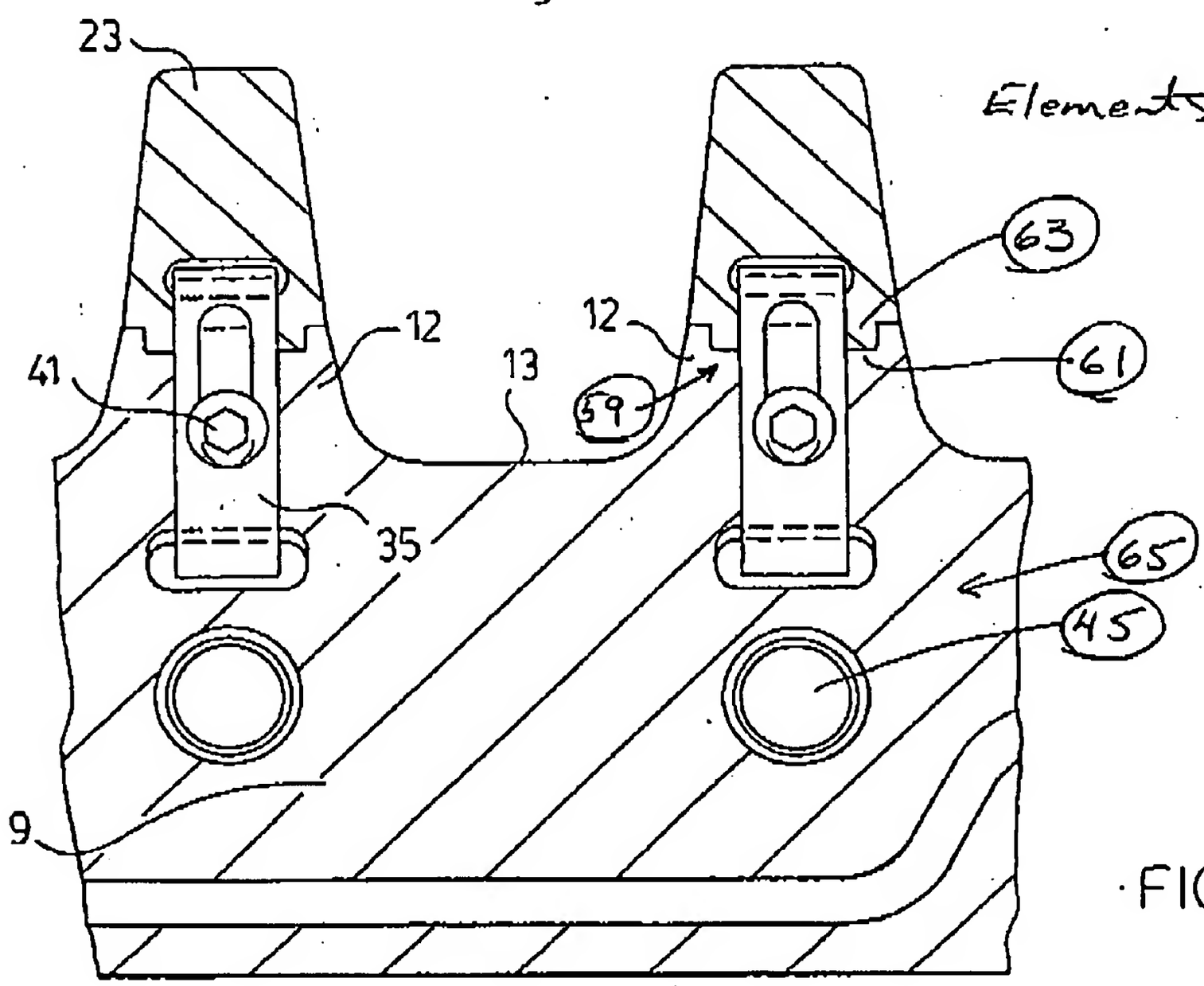
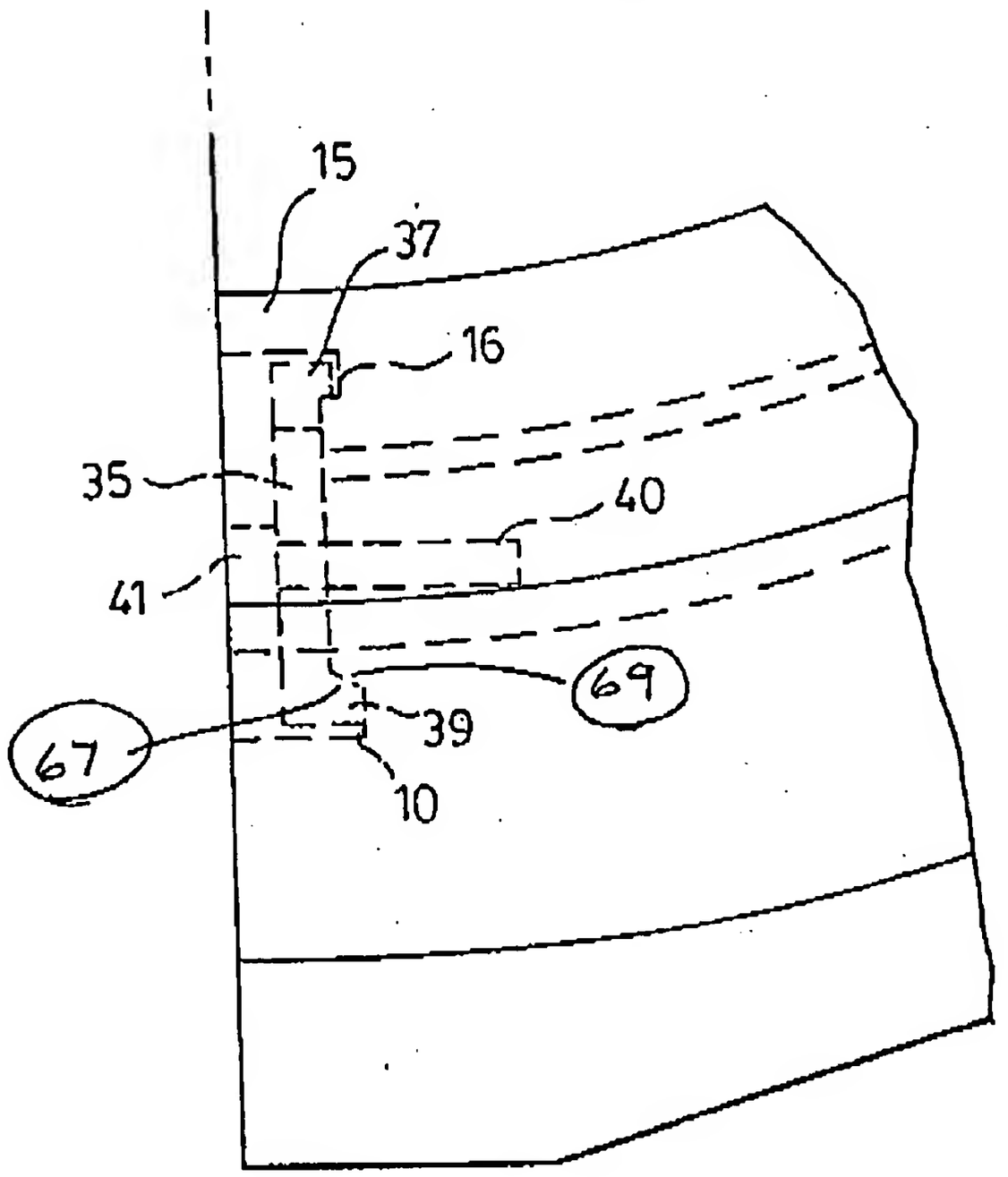


FIG.5.

FIG.6.



Elements 67 and 69 added